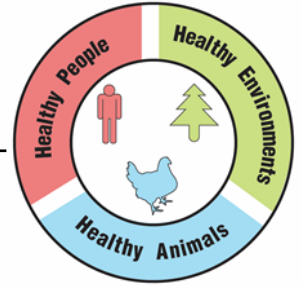


One Health Puzzle



Teacher Guide

Lesson Summary:

How are human health, animal health, and the health of the environment connected to each other? Students engage in an activity to model the decision-making process used by Dr. Kinari Webb to solve the problem of endangered orangutans in Borneo. The lesson is designed to provide students with an introduction to the One Health concept as well as to model a solutions-based method for decision making.

Core Concept:

A One Health approach identifies and seeks solutions to problems that affect the health of humans, animals, and the environment.

Suggested Grade Level: Grades 9-12

Class Time Required (approximate):

- Part 1: The trip of a lifetime! **15 minutes**
- Part 2: Radical listening – What are the pieces of the puzzle? **30 minutes**
- Part 3: Solving problems – How do the puzzle pieces connect? **30 minutes**
- Part 4: One Health **20 minutes**

Teacher Provides:

For each student

- Copy of student handout entitled **One Health Puzzle**.
- One colored index card. The teacher may consider printing the word “Problem” on it, using only one color for each of the groups.
- Several (3-4) white index cards. The teacher may consider printing the word “Solution” on them.
- One of these five “radical listening” perspective sheets (*pages v-ix*). Consider printing on colored paper to match the colors of the index cards. Consider laminating these or put them into clear plastic sheet protectors to be used again.
 - **Bornean Orangutans Fact Sheet, prepared by Dr. Gibson**
 - **Interview with local farmer, Pat Suphyan**
 - **Interview with a logger, Yusuf**
 - **Interview with local physician, Dr. Daeng Faqih**
 - **Bornean Rainforest Facts, prepared by Datuk Yen**

For each team of 5 students

- One large piece of chart paper
- Markers
- Scissors
- Tape

Suggested Class Procedure:

General

Distribute 1 copy of **One Health Puzzle** to each student.

Part 1: The trip of a lifetime! (10 minutes)

1. Read Part 1 together as a class.
2. Provide students time to complete part 1 questions.
3. Teacher may consider locating Indonesia on a map.
4. Teacher may show Borneo tourism video at <https://www.youtube.com/watch?v=YUNW1XnSW6g> to give students a feel for the Island. Consider showing the video while students are answering questions.

Part 2: Radical listening – What are the pieces of the puzzle? (30 minutes)

1. Read Part 2 together as a class.
2. Assign each student one of the “radical listening” perspectives.
3. Assign each group of students with the same “radical listening” perspective a specific color of index card.
4. Prompt students to read their perspective silently.
5. Have students label their colored index card “PROBLEM” and have them list the problem from their perspective on the colored index card.
6. Next, have students label one white index card “SOLUTION” and have them list (using bullet points) 3-4 solutions described from their perspective reading or ideas they brainstorm.
7. Place all students completing the same “radical listening” perspective in a group.
8. The teacher should instruct each of the student to take turns sharing their “PROBLEM” card with the group. The teacher should guide students to come to consensus on the main problem. Students should be given time to write the main problem, as agreed upon by the team, on the colored “PROBLEM” index card. The teacher may need to provide a new card if a student’s original idea was very different from the consensus idea.
9. Once groups identify the main problem, the teacher should instruct students to take turns sharing their solutions. The teacher should guide students to come to consensus on the solutions the group

wishes to share with the class. Students should write the consensus solutions on NEW white index cards. Only one solution should be written per index card.

Part 3: Solving problems – How do the puzzle pieces connect? (30 minutes)

1. After groups have had time to come to consensus, the teacher should place the students into new teams consisting of one person from all five “radical listening” perspectives.
2. The teacher should instruct teams to share their identified problem and solutions following the directions on the student instructions. The teacher may want to remind students that the information being shared by the team is new. Each person in the team completed a different perspective and it is important to listen to what each team member has to offer.
3. Provide each team with a piece of large poster paper and markers. Students work to find a solution that solves as many problems as possible using the steps in the student instructions. Students work to connect solutions with problems. As students are creating their solutions web, the teacher should circulate and encourage students to make as many connections as they can. One solution may solve several problems.
4. When all teams have completed their solutions web, the teacher should prompt teams to share out the solution they feel would solve the most problems. Encourage teams to support their decision with evidence from their solutions web.

Part 4: One Health (20 minutes)

1. Read the information in the first text box aloud to the class.
2. Students work with their partner to complete question 1.
3. Have several students share their answer to question 1. It is important for students to have this correct before moving on to question 2.
4. Display the following video from the CDC to add to student understanding of One Health.
<https://www.youtube.com/watch?app=desktop&v=TG0pduAYESA>
5. Read the information in the second text box aloud to the class.
6. Students work with their partner to complete question 2 – their digital slide. *Note: Students without access to digital slide programs like Google or PowerPoint can produce a paper version.*
7. Suggestion – Collect the digital slides into one slide deck. Share this slide deck with the class. If you have ample class time, you may consider having students present and explain their slides.
8. Students receive full credit if their slide links the solutions from Health in Harmony to the health of humans, animals and the environment.
9. Students complete question 3 individually. Have students share their answers to question 3 with the class.
10. Optional extension: Have students identify another example of a One Health problem. Have students use their idea to create a similar slide/poster that explains why their example is a One Health problem. Students can use examples from their community or from the One Health CDC website.

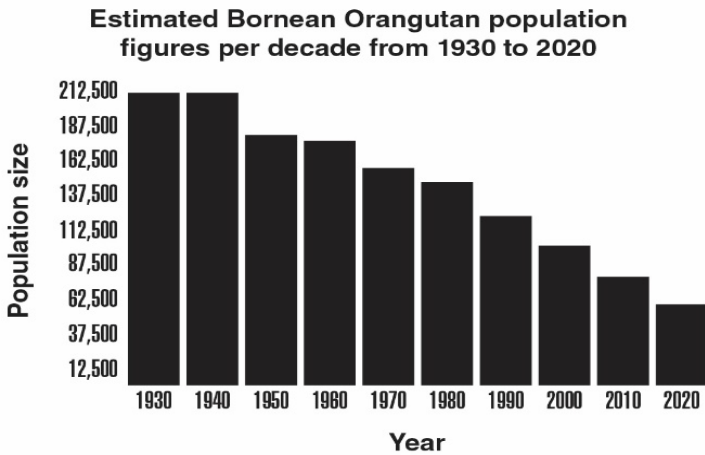
Suggested Resources:

- **Center for Disease Control (CDC) Video Part 4**
<https://www.youtube.com/watch?app=desktop&v=TG0pduAYESA>
- **Borneo Tourism Video** <https://www.youtube.com/watch?v=YUNW1XnSW6g>
- **Orangutans – General Facts** <https://www.worldwildlife.org/species/bornean-orangutan>
- **Orangutans and their importance as seed dispersers**
<http://www.borneonaturefoundation.org/en/news/critically-endangered-orangutan-identified-important-seed-disperser/>
- Esther Tarszisz, Sean Tomlinson, Mark E Harrison, Helen C Morrogh-Bernard, Adam J Munn, Gardeners of the forest: effects of seed handling and ingestion by orangutans on germination success of peat forest plants, *Biological Journal of the Linnean Society*, Volume 123, Issue 1, January 2018, Pages 125–134, <https://doi.org/10.1093/biolinnean/blx133>
- **Dr Kinari Webb – TED Talk** https://www.youtube.com/watch?v=tJkeZ_4wuYg
- **Dr. Kinari Webb – Background**
<https://medicine.yale.edu/news/yale-medicine-magazine/a-lifes-work-in-indonesia/>
- **Health in Harmony** <https://healthinharmony.org/>
- **Bornean Rainforests**
<https://news.mongabay.com/2014/07/30-of-borneos-rainforests-destroyed-since-1973/>

*Scan the QR code with your
smartphone or tablet camera app to
link to a file with all the websites.*



Bornean Orangutans Fact Sheet, prepared by Dr. Gibson



Modified from https://www.projectarkfoundation.com/animal/bornean_orangutan

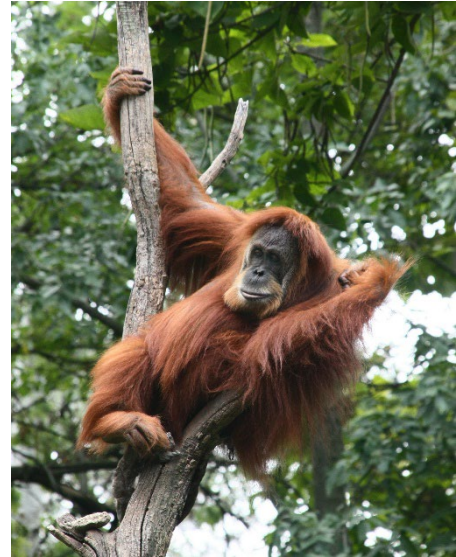
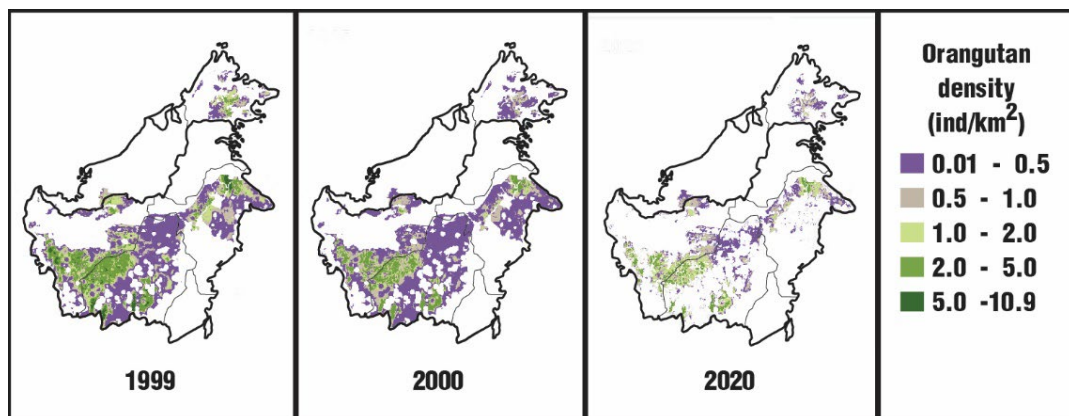


Photo by Unknown Author, licensed under CC BY-NC

Did you know?

- Orangutans are the world's largest tree-dwelling frugivores (fruit eaters).
- It takes 24 to 72 hours for food to move through an orangutan's digestive system.
- Male orangutans can travel 1000 m per day! This means that orangutans are important forest builders because they transport seeds long distances from the original source tree.
- 70% of orangutan fecal (poop) samples have at least 1 intact seed. Most samples contain 1 to 142 seeds.
- One sample of orangutan poop had over 828 seeds!
- Some seeds show greater germination success and/or quicker germination after they have passed through an orangutan's digestive system. Orangutans are an important part of the forest building process.



These maps show both orangutan density and geographic range since 1999.

Interview with local farmer, Pat Suphyan

Interviewer: Good morning, Mr. Suphyan! I am so glad you are willing to answer our questions today.

Mr. Suphyan: Of course. You know that the forest is our life. We don't want the forest to disappear.

Interviewer: Can you tell me about your family?

Mr. Suphyan: I have a wife and two small children. My youngest daughter was very sick after she was born. It was very scary, we thought that she would die.

Interviewer: I'm very sorry to hear about your daughter! How did you find her medical help when she was sick? I traveled here from Jakarta and have heard that there are no medical clinics between here and Jakarta.

Mr. Suphyan: (*starts to cry*) It was not easy. We had to pack up the family and travel eight hours by motorboat to the closest clinic. You know traveling that far is not easy, especially with two small children. It also costs a lot of money! That's only the travel....the medical care and medicine my daughter received was even more money.

Interviewer: How were you able to afford to take care of your daughter?

Mr. Suphyan: I am a rice farmer. I am able to grow enough food to feed my family and keep them safe in our home. We did not have enough money to pay for all of this. But my daughter needed help, I could not stand by and watch her get sicker.....

Interviewer: What did you do?

Mr. Suphyan: I knew that cutting down the trees would give me enough money to help her. I get 1.2 million rupiahs (*about \$70 American dollars*) per tree I cut and sell. I borrowed a chainsaw from a neighbor and spent two weeks cutting down trees to get the money we needed. (*pauses*) I want my daughter to see the same forest I saw when I was a child. The more we cut down, the less there will be for her. I just didn't know what else to do.....

Interviewer: That is quite a story! I hope your daughter is doing ok now!

Mr. Suphyan: Yes, she is. Thank you.

Interviewer: What kind of help do you think the village needs so that you don't have to cut down trees?

Mr. Suphyan: A local clinic would be nice, so we wouldn't have to travel eight hours for care. Traveling costs so much money and takes so much time. Maybe even if the clinic was close by, we could get help before we get too sick. It would be better for us.

Interview with a logger, Yusuf

Interviewer: Thank you Yusuf for agreeing to tell your story! Can you tell us a little bit about the job in general?

Yusuf: It's probably very different than you think. When I get an assignment, me and the crew go into the forest and we know we will spend about a year away from our families. We spend about ten hours a day cutting and transporting the trees. Cutting the trees down is the easiest part of our job. The big risk is transporting those massive trees across the dangerous terrain.

Interviewer: I would have thought cutting those big trees was the tough part! I don't understand, how is transporting the trees dangerous?

Yusuf: The risk starts when we have to move those giant wood logs on slippery roads to the riverbank. We have to use huge trucks and bulldozers to maneuver muddy forest tracks. But the cliffs and steep drop offs are terrifying. If the brakes fail, you have to jump out while the vehicle is still moving. It doesn't bear thinking about - trucks have completely overturned on us!

Interviewer: Why do you keep doing such dangerous work?

Yusuf: Danger is part of the job; danger is how I make my living.

Interviewer: How much money can you make logging in the rainforest?

Yusuf: I earn about \$500 US a month. That's enough to support my wife and son. I was even able to save up enough money to build a house and buy some oil palms. I dream of saving up enough money to get out of here. No one wants to spend their entire life in the jungle. No one wants to be the one who murdered the forest.

Interviewer: Murdered the forest? What do you mean by that?

Yusuf: Well to be honest, as long as there is wood, someone will cut it. As long as there are trees, we will still have work. But, the forest is disappearing. We know we are cutting too much. We know the forest will not be here for much longer.

Interviewer: Why don't you stop? If you recognize that logging is the demise of the forest, why do you continue to log?

Yusuf: It's a way to make a living. It's the way I support my family. I keep saving up enough money to buy more oil palms because I don't want to do this much longer. I hope I can switch to oil palm farming one day. There's good money in oil palm farming, but you have to know what you are doing. The best money comes from sustainably sourced palm oil. This means learning good farming practices and working with groups willing to help with sustainability.

Interviewer: This is a complicated issue. I'm glad you were able to explain why people continue to cut down the rainforest.

Interview with local physician, Dr. Daeng Faqih

Interviewer: Good morning, doctor Faqih! Thank you for spending time with us today.

Dr. Faqih: It is my pleasure.

Interviewer: Can you tell us about your clinic?

Dr. Faqih: Certainly! I work in a small clinic outside of the city of Jakarta. We are the frontline of treatment for most people, especially those travelling long distances from villages in or near the forest.

Interviewer: Do you treat everyone that comes to you?

Dr. Faqih: We try to! Health insurance is available but not everyone can afford it. Many times we get patients who are unable to pay for the medicine they need.

Interviewer: How does this affect your ability to help them?

Dr. Faqih: Well....many times people who can't afford care come in with chronic, unmanaged diseases. I see a lot of people with diabetes and high blood pressure who have never seen a doctor. They come to the clinic for some other ailment, and through the course of the visit, other underlying diseases show up. I also see many patients with Tuberculosis.

Interviewer: Wow! Would you agree that paying for healthcare is the main thing preventing people from getting the help they need?

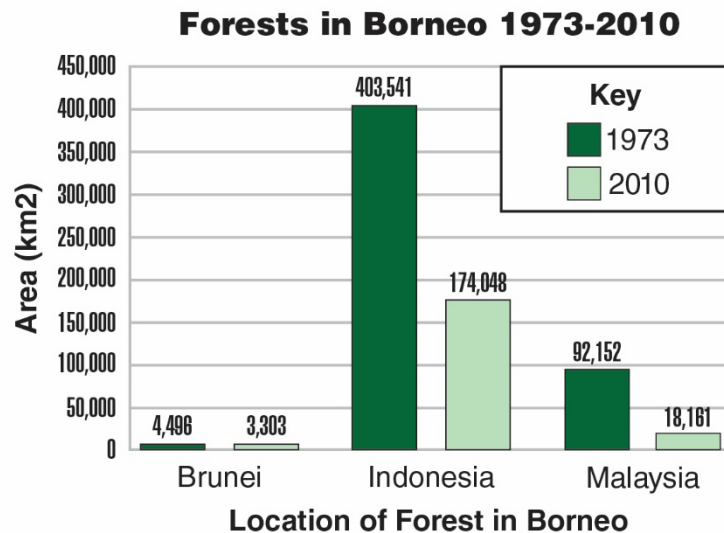
Dr. Faqih: Yes and no. Of course, if you can't pay, you wait as long as you can.....you wait until you can't wait any longer to visit the doctor. But there are not enough clinics near the villages. Some of my patients travel hours just to visit a clinic.

Interviewer: What solutions do you suggest? I mean, what changes would you make right now, changes that might easily help?

Dr. Faqih: Well, first, we need to build clinics where the people are! People should not have to travel eight hours for care! Secondly, I think we need to be creative on how people pay for care. Local clinics might accept some form of trade for payment. Maybe the clinic needs a roof, the family could help build the roof. Maybe clinics could have gardens to promote healthy eating or grow medicinal herbs. Families could care for seedlings or work in the garden to promote the health of the entire village. I don't have all of the answers, but we need to be creative to help people!

Interviewer: Thank you doctor. You've really highlighted some of the problems people living in the village forests face on a daily basis.

Bornean Rainforest Facts, prepared by Datuk Yen



Modified from <https://news.mongabay.com/2014/07/30-of-borneos-rainforests-destroyed-since-1973/>

The main island of Borneo is divided into four areas and is controlled by three governments: Indonesia, Malaysia and Brunei. Until 50 years ago the rainforests of Borneo were considered some of the wildest and most pristine on the planet, home to nomadic tribes and substantial populations of orangutans, pygmy elephants, and rhinos. Today those tribes' traditions are all but gone, rhinos are on the brink of extinction, and orangutans and elephants are endangered. Meanwhile Borneo's forests have transitioned from being a net carbon sink, an area that absorbs greenhouse gases from the atmosphere, to a source of carbon, with deforestation and fires contributing to climate change.

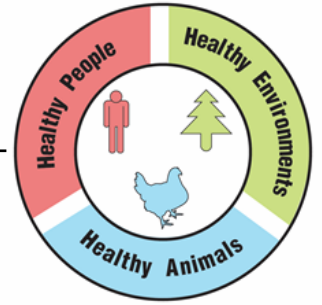
Did you know?

- More than 30% of Borneo's rainforests have been destroyed in the last 40 years.
- Intact lowland forests house the highest levels of biodiversity and store the largest amounts of carbon.
- 34% of forests were selectively logged, while 39% were cleared completely.
- Forest degradation starts with logging roads, which grant access to remote areas for timber extraction.
- Once valuable wood has been harvested, forests may be bulldozed for industrial plantations.
- Industrial plantations supply the world with palm oil, paper, and timber.
- One study found that even inaccessible mountain forests are now being logged and converted for plantations.
- Palm oil production is an important driver of deforestation.
- Educating farmers on sustainable farming methods along with strict laws that protect forests have been shown to improve the health of the rainforest.

NGSS Correlation:

<p>Working Towards Performance Expectations</p> <p>MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.</p> <p>HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.</p>		
<p>Science and Engineering Practices</p> <ul style="list-style-type: none"> Use graphical displays (e.g., maps, charts, graphs, and/or tables) of large data sets to identify temporal and spatial relationships. 	<p>Disciplinary Core Ideas</p> <ul style="list-style-type: none"> Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. A complex set of interactions within an ecosystem can keep its numbers and types of organisms relatively constant over long periods of time under stable conditions. If a modest biological or physical disturbance to an ecosystem occurs, it may return to its more or less original status (i.e., the ecosystem is resilient), as opposed to becoming a very different ecosystem. Extreme fluctuations in conditions or the size of any population, however, can challenge the functioning of ecosystems in terms of resources and habitat availability. 	<p>Cross Cutting Concepts</p> <p>Stability and Change:</p> <ul style="list-style-type: none"> Much of science deals with constructing explanations of how things change and how they remain stable.

One Health Puzzle



Answer Key

Part 1: The trip of a lifetime!



Photo by Unknown Author, licensed under CC BY-NC

In 1993, Kinari Webb was a college student who was provided the opportunity to travel to Borneo, Indonesia to study orangutans. Borneo is the third largest island in the world and is home to one of the oldest rainforests in the world. This would be the trip of a lifetime for Kinari! The Borneo rainforest is one of the few remaining natural habitats for the endangered Bornean Orangutan. Kinari was excited to be able to study the magnificent orangutan in its natural habitat.

Kinari's trip was not without heartache. As soon as she settled in at the research camp, Kinari could hear the hum of chainsaws in the forest. She knew that the orangutans were endangered because the rainforest in Borneo was disappearing at an alarming rate due to logging.

The people at the research camp were concerned for the orangutans. One of the researchers said that the orangutans used to be able to travel from one side of the island to the other without ever touching the ground. Orangutans spend most of their lives in trees, swinging in tree-tops, finding food and building nests for sleep. As more trees are removed from the forest, greater stress is put on the orangutan, decreasing their chance for survival.

1. What is the main reason the rainforest is declining in Borneo?

The rainforests are declining due to logging.

2. Explain why removing trees from the rainforest puts stress on the orangutan population, decreasing their chances of survival.

Orangutans spend most of their lives in the trees. When the trees are removed, the orangutans lose resources they need to survive.

3. What do you think will happen to the orangutan population if humans continue logging the Bornean rainforest?

If humans continue to remove trees from the rainforest, the orangutan population will continue to decline.

Part 2: Radical Listening – What is the problem?

During her time in Borneo, Kinari realized that the fate of the orangutans was closely tied to the fate of the rainforest. She also realized that saving the rainforest was a complex issue. After graduating from medical school, Dr. Kinari Webb returned to Borneo in 2005 to build a medical clinic in one of the local Bornean villages.

Kinari quickly understood that she was NOT an expert on the complex factors driving the changes in the rainforest. In order to gather as much information as possible, Kinari and her team engaged the local people, whose livelihood and survival depends on the rainforest, in a **radical listening** exercise. Kinari defines radical listening as asking all members of the local community what they need to protect their environment and then working to make their solutions a reality. She thinks this is radical because many times conservation groups come into a community and just make changes without listening to local people about what they actually need. Once Kinari is able to understand the complexity of the issue from a local viewpoint, she and her team could begin to make positive changes.

You will participate in a simulated “radical listening” session to collect information to help Kinari. As part of the radical listening team, each of you will be in charge of collecting a part of the story.

Your teacher will assign you one of the following “radical listening” perspectives:

- An interview with a local farmer, Pat Suphyan
- An interview with a clinic supervisor, Dr. Daeng Faiqh
- An interview with a logger, Yusuf
- Data about Bornean orangutan population prepared by Dr. Gibson, head of “Save the Animals” animal protection group
- Information about Bornean rainforests prepared by Datuk Yen, the government national resources commissioner.

Work individually to prepare for a meeting with others who have read the same information.

1. Read your assigned “radical listening” perspective.
2. Label one of your colored index cards “PROBLEM”.
3. Identify one main problem described in your “radical listening” perspective and write this on one of the **colored index card** provided by your teacher. Be as specific as possible when identifying your problem. Be prepared to share your problem with your classmates.
4. Identify 3-4 facts from your “radical listening” perspective that can be shared with your classmates to support your choice of the main problem. Add these facts to the back of your index card OR highlight the facts on your perspective sheet.

5. Label a white index card, "SOLUTIONS".
6. Identify 3-4 solutions described in your "radical listening" perspective. Write a list of the solutions you identify on the white index card.
7. Be prepared to share your solutions with your classmates.

Share what you learned with others.

8. Your teacher will place you in an expert group with students who reviewed information from the same "radical listening" perspective as you.
9. First, each student should share only their **Problem** index card with the group.
10. The group should then come to a consensus (agreement) about the main problem identified by their "radical listening" perspective source.
11. Each student in the group should write the main problem agreed upon by the team on the colored **Problem** card. Raise your hand if you need a new, clean **Problem** card. Each student will need a completed **Problem** card for the next activity.
12. After every student has shared their "problems", take turns sharing your "solutions" with the group. As students share, place a star next to "solutions" shared by more than one person in your group.
13. The group should then come to a consensus (agreement) about the possible solutions they want to share with the class. The group may share multiple solutions. Have one person write one solution on each white **Solution** card. For example, if you have 3 solutions, there should be three separate cards. Ask your teacher for more **Solution** cards, if needed.
14. To participate in the next activity, you will need your own set of your group's **Solution** cards. Make your own set of **Solution** cards.

Part 3: Radical Listening – How do the puzzle pieces connect?

Kinari thought the problem was simply a decrease in the orangutan population. However, after radical listening, she realized that many problems contributed to the decrease in orangutans. The goal of radical listening is to use the information provided by local people to enact real solutions to the problems they identified. Up to this point, you have only heard about this problem from the perspective (point of view) of one person. You will now work with a team of students that represent five different perspectives.

1. Your teacher will place you in a team with all five of the “radical listening” perspectives. You will work as a team to develop a plan to help the people, the orangutans, and the Bornean rainforest.
2. Each team member should take turns doing the following:
 - a. Identify the source of their “radical listening” information.
 - b. Read the main problem on your **Problem** card.
 - c. Share any supporting information that you wrote on the card or highlighted on your radical listening perspective sheet.
 - d. Place the **Problem** card on the table for the team.
3. As each person shares the **Problem** from their perspective, decide if each problem is:
 - A human health problem – write “H” on the **Problem** card.
 - An animal health problem – write “A” on the **Problem** card.
 - An environment health problem – write “E” on the **Problem** card.
4. Notice that there are many, complex problems identified by the team. Your team’s goal is to find solutions that could solve multiple problems!
5. To do this, team members should take turns sharing the solutions identified from their radical listening perspective. Place all the team’s **Solutions** cards on the table.
6. As a team, work to create a solutions web using the following procedure:
 - a. Lay out all the team’s **Problem** cards on your large chart paper.
 - b. Group or stack any problems that are similar. Place these “stacks” in a row across the top of your chart paper.
 - c. Notice that each **Problem** is a color.
 - d. Group or stack any solutions that are similar. You may want to paper clip similar solution cards together.
 - e. Lay out all the **Solutions** stacks in a row under your **Problem** card stacks.
 - f. Using a marker, draw a line connecting the problem stack to each solution stack that would fix the problem.
 - g. Continue drawing lines so that each problem stack is associated with solutions. It is OK to have multiple lines going to each solution stack.

7. Look at the lines connecting your problem and solution stacks. Which one of the solutions do you feel would have the greatest impact on solving the problems in Borneo? Support your choice.

Student answers will vary.

8. Explain how the solution you selected might affect the health of the rain forest.

Student answers will vary.

9. Explain how the solution you selected might lead to an increase in the orangutan population.

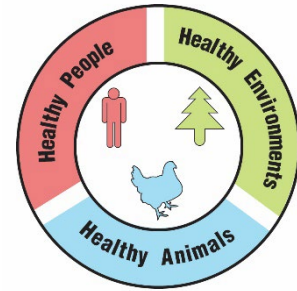
Student answers will vary.

10. Explain how the solution you selected might improve the health of the people in Borneo.

Student answers will vary.

Part 4: One Health

A One Health approach embraces the idea that the health of animals, people and the environment are closely linked. Complex, One Health problems must be solved through improved communication, cooperation, and collaboration by experts in human health, animal health, and environmental health. One Health professionals work locally, nationally, and globally – to attain optimal health for people, domestic farm and food animals, wildlife, plants, and our environment.



The loss of orangutans in Borneo is a good example of a complex problem that can be solved following the **One Health** approach. You worked on this problem as a One Health team. Use what you learned from Parts 1 through 3 to complete the following questions.

1. Why is the PROBLEM in Borneo a good example of a One Health problem?

The problem in Borneo is a complex problem that includes human, animal and environmental health.

Dr. Webb founded a conservation organization called **Health in Harmony** that brings together professionals in many different disciplines to solve the complex problem in Borneo using the One Health model. Your team has been hired to create a slide to answer the question, **“How does Health in Harmony offer One Health solutions for the loss of orangutans in Borneo?”**

Remember how the CDC video used images with captions to help people understand what One Health problems and solutions involve. Using pictures and captions will help people understand and remember how Health in Harmony uses a One Health approach.

2. Use the Health in Harmony website at <https://healthinharmony.org/results/> to identify how the Health in Harmony organization offers SOLUTIONS that fit a One Health approach. Use the following template to organize your slide:

How does Health in Harmony offer One Health solutions for the loss of orangutans in Borneo?		
Picture and a caption to identify one positive impact on the environment	Picture and a caption to identify one positive impact on humans health	Picture and a caption to identify one positive impact on animals

3. The Borneo example illustrates how local decisions may have global impacts. Explain how the local decision to build a medical clinic can have an impact on the global environment.

Health in Harmony created a medical clinic to provide people access to free/low cost health care locally. This reduces the need to cut down trees for profit in order to pay for travel and healthcare at clinics located miles away from local villages. Additionally, the clinic provides incentives to villages who stop logging, reducing the number of trees cut down in the rainforest. When less trees are cut down, habitat for endangered orangutans (and other animals) is protected. Maintaining healthy rainforests reduces greenhouse gases that contribute to climate change.